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Ahn, K.H., Performance of a Laboratory Clean Room. No. 5, p. 22. *(Abstract—see Liu, B.Y.H.)*

Allen, H. W., A Method of Structural Analysis for Small Items in a Random Vibration Environment, Part I, No. 3, p. 38. *Discusses an approach to a cost-effective manner to perform engineering analyses by which engineers must eliminate noncritical design items from a detailed analysis program and concentrate on the marginal and critical design items. Objective is accomplished through the use of a rapid single-degree-of-freedom analysis.* (DTE Shock and Vibration)

A Method of Structural Analysis for Small Items in a Random Vibration Environment, Part II, No. 4, p. 33. *Presents a step-by-step example that provides the deflection, equivalent stiffness, frequency, and dynamic stress on two different beam configurations with their predicted times-to-failure. In addition, the deflection and frequency results from a finite-element-model analysis of two tapered brackets are compared with the results from the nondimensional variable stiffness beam method developed previously.* (DTE Shock and Vibration)

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Bachnysky, N., A Testing Program Using the Thermogenic Drug 2, 4-Dinitrophenol to Save Lives in Freezing Environments, No. 3, p. 50. *Discusses modern science's ability to reduce frostbite and prevent loss of life in cold-water and cold-air environments by utilizing 2,4-dinitrophenol (DNP), a drug capable of warming the body. The Institute of Specialized Medicine's (ISM) three-phase testing program to determine the efficacy of the drug DNP for survival in emergency situations is discussed.* (DTE Climatics and Thermal)

Belling, K. J., A New Method for Measuring Nonvolatile Residue for Ultrapure Solvents, No. 4, p. 43. *(Abstract—see Blackford, D. B.)*

Blackford, D. B., A New Method for Measuring Nonvolatile Residue for Ultrapure Solvents, No. 4, p. 43. *Describes a quantitative method for measuring the nonvolatile residue of ultrapure solvents. Results are presented and a qualitative method for measuring nonvolatile residue is also described.* (CC Identification and Measurement)

Burkhard, A. H., Deterministic Failure Prediction, No. 2, p. 34. *Presents concepts and ideas on an approach to equipment reliability prediction based on the concept that failures of electronic equipment are ultimately due to chemical, mechanical and/or metallurgical processes. These processes follow physical laws which can be modeled and the amount of life available for exposure to a given stress condition can be calculated.* (DTE Criteria and Standards; PR Criteria and Standards)

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Carosso, P. A., Surface Contamination Monitoring by the Measurement of Scattering Distribution Functions, No. 3, p. 34. *Describes an effective method for contamination monitoring using Bidirectional Scattering Distribution Functions (BSDF) to quantify surface degradation. The paper discusses the basis for this recommendation, apparatus adopted to perform measurements, some practical aspects of data collection, suggestions on possible applications, and results attained in contamination monitoring programs at the NASA Goddard Space Flight Center.* (CA Digital Data Measurement/Processing; CC Identification and Measurement)

Carosso Pugel, N. J., Surface Contamination Monitoring by the Measurement of Scattering Distribution Functions, No. 3, p. 34. *(Abstract—see Carosso, Paolo A.)*

Caruso, H. J., A Consumer Guide to ESS: Making Sense Out of Environmental Stress Screening Standards and Requirements, No. 1, p. 13. *Summarizes and compares nine environmental stress screening (ESS) standards and requirements documents. Guidelines are provided for evaluating ESS requirements documents in terms of technical validity, management involvement, and sound business practices.* (DTE Shock and Vibration, Test Tailoring; PR Acquisition Policies, Stress Screening, Criteria and Standards)

Chenoweth, H. B., Reliability Testing—Challenges and Trends, No. 1, p. 18. *Examines the recent range of advances in reliability testing concepts developed during the last two decades with a concentration of reliability growth testing.* (PR Acquisition Policies, Criteria Standards)

Cucchiaro, H. A., The Liege Vacuum Optical Bench 'Focal 5', No. 4, p. 17. *(Abstract—see Macau-Hercot, D.)*

Curtis, A. J., A Quantitative Method of Tailoring Input Spectra for Random Vibration Screens, No. 5, p. 42. *Presents a rational method by which an effective random vibration screen may be developed efficiently and quantitatively.* (DTE Criteria and Standards, Shock and Vibration, Test Tailoring; PR Stress Screening, Criteria and Standards)

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DeWinter, R., Vibration Testing Using Spectra with 20 to 50 Breakpoints, No. 5, p. 37. *(Abstract—see Edelstein, A.)*

Donato, M., Evaluation of the Infrared Test Method for the Olympus Thermal Balance Tests, No. 3, p. 45. *Reports on the performance of the infrared test techniques developed and used for the thermal balance testing of the Olympus spacecraft thermal model.* (CA Environmental Control/Monitoring, Digital Data Measurement/Processing; DTE Climatics and Thermal)

Donovan, R. P., Particle Size Distribution in Clean Rooms, No. 6, p. 44. *(Abstract—see Ensor, D.S.)*

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Eagleson, K. W., Proposed Application of Automated Biomonitoring for Rapid Detection of Toxic Substances in Water Supplies for Permanent Space Stations, No. 2, p. 47. *(Abstract—see Morgan, E. L.)*

Edelstein, A., Vibration Testing Using Spectra with 20 to 50 Breakpoints, No. 5, p. 37. *Discusses the approach used by engineers at National Technical Systems to perform vibration testing on three Space Shuttle components in 1982 and 1983. Each test program is briefly summarized in terms of specific requirements, after which the technical difficulties and technical solutions are discussed. Equipment schematics and sample test data in the form of x-y plots are also presented.* (CA Environmental Control/Monitoring; DTE Shock and Vibration)

Elmalah, E., An Environmental Engineering Management Program for Military Hardware Acquisition, No. 4, p. 30. *(Abstract—see Sasson, P.)*

Ensor, D. S., Overview of the 8th International Symposium on Contamination Control, No. 5, p. 50. *Reviews the activities and topics of the 8th International Symposium on Contamination Control.* (CC Clean Room Design/Materials, Filters and Filtration, Source and Effects, Criteria and Standards, Identification and Measurement)

Particle Size Distribution in Clean Rooms, No. 6, p. 44. *Summarizes measurements of particle size distributions smaller than 0.1 μm in Class 100 clean rooms.* (CC Clean Room Design/Materials, Sources and Effects, Identification and Measurement)

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Fisher, W. G., Aerosol Charging and Neutralization and Electrostatic Discharge in Clean Rooms, No. 1, p. 42. *(Abstract—see Liu, B.Y.H.)*

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Goldsmith, S., Evaluation of Critical Gas-Line Filters, No. 6, p. 39. *(Abstract—see Jensen, D.)*

Grant, D. C., Improved Methodology for Determination of Submicron Particle Concentrations in Semiconductor Process Chemicals, No. 3, p. 28. *Presents information regarding an improved counting methodology that has been developed for measurement of submicron particle concentrations to semiconductor process chemicals.* (CC Identification and Measurement)

Green, J., Evaluation of the Infrared Test Method for the Olympus Thermal Balance Tests, No. 3, p. 45. *(Abstract—see Donato, M.)*

Green, K., Tailoring in the Context of Acquisition Streamlining, No. 2, p. 31. *Defines the objectives and discusses the major policy issues and concepts imbedded in the acquisition streamlining initiative (DoD Directive 5000.43). The inherent attributes of specifications and standards is explored, together with effective ways to utilize these documents to achieve the full potential benefits of acquisition streamlining.* (DTE Test Tailoring; PR Acquisition Policies)

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Huang, D. D., Analytical Approach for Managing Wastewater Treatment Facility Influent, No. 4, p. 21. *Reports on study to develop methods for efficiently monitoring and effectively controlling wastewater treatment facility influent characteristics.* (EE Environmental Planning, Water Quality Impact)

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Jamar, J., The Liege Vacuum Optical Bench 'Focal 5', No. 4, p. 17. *(Abstract—see Macau-Hercot, D.)*

Jensen, D., Evaluation of Critical Gas-Line Filters, No. 6, p. 39. *Develops accurate test methods for evaluation of gas-line filters for particulate cleanliness during both steady flow and mechanical shock in critical semiconductor manufacturing equipment and process lines. Each test method and apparatus is described, and choice of testing conditions are discussed. Filters from four major manufacturers were evaluated and the data are shown and compared.* (CC Filters and Filtration, Identification and Measurement)

Judkins, N. J., Spacecraft Internal Vibration Response Acceleration System Level Versus Component Level, No. 6, p. 17. *Compares vibration damage potential with damage potential during the spacecraft level acoustic exposure. Comparison of the internal responses obtained during the acoustic test with those of the vibration test are discussed.* (DTE Acoustic, Shock and Vibration)

K

Kamei, L. T., Construction and Activation of Rockwell International's Acoustic Test Chamber, No. 1, p. 25. *Discusses the design philosophy, construction, integration, and activation and initial testing of the high intensity acoustic test chamber for production acceptance testing of satellites as part of a recently completed plant modernization program to support mass production of 28 satellites.* (CA Environmental Control/Monitoring; DTE Acoustics)

Kano, H., Development of a New Continuous Monitor for Nonvolatile Solute in Ultrapure Water by Atomization, No. 4, p. 39. *(Abstract—see Kousaka, Y.)*

Kinstley, W. O., Aerosol Charging and Neutralization and Electrostatic Discharge in Clean Rooms, No. 2, p. 42. *(Abstract—see Liu, B.Y.H.)*

Klein, L. D., Unique Test Capabilities of the Eglin AFB McKinley Climatic Laboratory, No. 6, p. 27. *Describes the Main Chamber of the Climatic Laboratory, the largest and most complex climatic environmental test chamber in the world. Other test chambers are also discussed.* (DTE Climatics and Thermal)

Knollenberg, R.G., A Polarization Diversity Two-Color Surface Analysis System, No. 6, p. 30. *Describes various aspects of a surface analysis system that uses an unconventional illumination approach of two orthogonally polarized lasers that may have different frequencies (colors).* (CC Identification and Measurement)

The Importance of Media Refractive Index in Evaluating Liquid and Surface Microcontamination Measurements, No. 2, p. 50. *Describes the results of theoretical and laboratory studies of the effects of media refractive index on the amount of light scattered by particles. Suggests solutions and methods for avoiding error.* (CC Identification and Measurement)

Kousaka, Y., Development of a New Continuous Monitor for Nonvolatile Solute in Ultrapure Water by Atomization, No. 4, p. 39. *Discusses a new monitoring system that has been developed for continuously measuring the concentration of total nonvolatile impurities in ultrapure water.* (CC Identification and Measurement)

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Laube, R. B., Testing of Satellites After Ground Storage, No. 2, p. 37. *Presents data about the effects of storage, the storage practices of several Space Division programs, and the failures identified by functional and environmental post-storage tests.* (DTE Acoustics, Solar and Space Simulation, Climatics and Thermal)

Lee, J.W., Performance of a Laboratory Clean Room, No. 5, p. 22. *(Abstract—see Liu, B.Y.H.)*

Liu, B.Y.H., Aerosol Charging and Neutralization and Electrostatic Discharge in Clean Rooms, No. 2, p. 42. *Describes the role of electrical charge on particle transport and the deposition and neutralization of particle electrostatic charge by ionized air.* (CC Sources and Effects, Identification and Measurement)

Performance of a Laboratory Clean Room, No. 5, p. 22. *Evaluates the performance of a small, 52 square meter laboratory clean room at the University of Minnesota using a system of aerosol measuring and monitoring instruments. Resulting measurements are provided and discussed.* (CC Clean Room Design/Materials, Identification and Measurement)

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Macau-Hercot, D., The Liege Vacuum Optical Bench 'Focal 5', No. 4, p. 17. *Describes 'Focal 5', a facility designed to perform optical tests on payloads in a thermal vacuum space environment. Details information on chamber size, stability factors, environment simulation and temperature variation testing.* (CA Digital Data Measurement/Processing; CC Clean Room Design/Materials; DTE Solar and Space Simulation, Shock and Vibration)

Macau, J.P., The Liege Vacuum Optical Bench 'Focal 5', No. 4, p. 17. *(Abstract—see Macau-Hercot, D.)*

McKain, R. D., A Quantitative Method of Tailoring Input Spectra for Random Vibration Screens, No. 5, p. 42. *(Abstract—see Curtis, A. J.)*

Moore, B. A., Method 1018 Moisture Measurement: The Evolution of Analytical Correlation, No. 1, p. 47. *Traces the development of moisture standards from the original Method 1018 (Internal Water Vapor Content) analytical laboratory certification program to the present. The results of several correlation experiments are presented, and the effect of time-temperature stress upon the stability of past and present standards is discussed.* (CC Criteria and Standards, Identification and Measurement; DTE Criteria and Standards, Climatics and Thermal; PR Criteria and Standards)

Morgan, E. L., Proposed Application of Automated Biomonitoring for Rapid Detection of Toxic Substances in Water Supplies for Permanent Space Stations, No. 2, p. 47. *Presents proposed design characteristics and applications of automated bimonitoring devices for real-time toxicity detection in drinking water supplies on-board permanent space stations. Testing, measuring devices developed, and specific responses detected are discussed.* (CA Environmental Control/Monitoring; DTE Solar and Space Simulation)

Musselman, R. P., Shear Stress Cleaning for Surface Deparliculation, No. 1, p. 51. *Describes a cleaning technique widely used by the nuclear utility industry for removal of radioactive surface contamination which has proven effective at removing non-hazardous contaminant particles as small as 0.1 micrometer (μm).* (CC Identification and Measurement)

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Niida, T., Development of a New Continuous Monitor for Nonvolatile Solute in Ultrapure Water by Atomization, No. 4, p. 39. *(Abstract—see Kousaka, Y.)*

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Pardeon, G. C., Spreadsheeting Power Spectral Density Calculations, No. 4, p. 26. *Indicates engineering applications for LOTUS 1-2-3 and demonstrates how it can be used to perform power spectral density calculations.* (CA Environmental Modeling/Analysis; DTE Shock and Vibration)

SRS-Spreadsheet Response Spectrum, No. 5, p. 31. *Explains additional LOTUS 1-2-3 capability to perform response spectrum calculations.* (CA Digital Data Measurement/Processing; DTE Shock and Vibration)

Parmenter, W.W., Naval Weapons Center's Live-Ordnance Environmental Safety and Non-destructive Test and Evaluation Facilities, No. 5, p. 26. *Describes the live-ordnance environmental, safety and nondestructive test and evaluation facilities at the Naval Weapons Center.* (DTE Criteria and Standards, Climatics and Thermal, Shock and Vibration, Test Tailoring)

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Sasson, P., An Environmental Engineering Management Program for Military Hardware Acquisition, No. 4, p. 30. *Presents details of an Environmental Engineering Management Program (EEMP) based on the requirements of Section 4 of MIL-STD-810D, as implemented at ADA, ISRAEL.* (DTE Criteria and Standards, Test Tailoring; PR Acquisition Policies)

Sato, H., Development of a New Continuous Monitor for Nonvolatile Solute in Ultrapure Water by Atomization, No. 4, p. 39. *(Abstract—see Kousaka, Y.)*

Sato, Y., Development of a New Continuous Monitor for Nonvolatile Solute in Ultrapure Water by Atomization, No. 4, p. 39. *(Abstract—see Kousaka)*

Settles, G. S., A Portable Schlieren System for Clean-Room Airflow Analysis, No. 5, p. 17. *Analyses the necessity for the direct observation of Vertical Laminar Flow (VLF) clean-room airflow characteristics, showing the need for a non-contaminating portable tool to display the flow dynamics in a clean room. The basic elements and sensitivity of the schlieren technique are presented together with experimental results obtained. Limitations of the technology are also analyzed.* (CC Clean Room Design/Materials, Identification and Measurement)

Shields, D. A., Agricultural Chemicals in Ground Water: Suggestions for The Environmental Protection Agency Strategy, No. 3, p. 23. *Discusses suggestions for The Environmental Protection Agency's current development of a national strategy on Agricultural Chemicals in Ground Water which will outline its general course of action in addressing this problem during the next five to ten years.* (EE Environmental Planning, Water Quality Impact)

Smith, M.D., Proposed Application of Automated Biomonitoring for Rapid Detection of Toxic Substances in Water Supplies for Permanent Space Stations, No. 2, p. 47. *(Abstract—see Morgan, E. L.)*

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Swett, B. H., Planning and Managing the Tailoring Process, No. 1, p. 20. *Presents overview of critical management issues associated with tailoring of environmental standards and engineering tasks in agreement with current Department of Defense acquisition policies. Special attention is focused on problems associated with competitive bidding, source selection, warranties, and contract provisions.* (DTE Criteria and Standards, Test Tailoring; PR Acquisition Policies, Criteria and Standards)

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Thomas, V. C., A Vibroacoustic Database Management Center for Shuttle and Expendable Launch Vehicle Payloads, No. 6, p. 24. *Describes the Vibroacoustic Database Management Center recently established at the Jet Propulsion Laboratory (JPL). That uses the Vibroacoustic Payload Environment Prediction System (VAPEPS) computer program to maintain a database of flight and ground-test data and structural parameters for both shuttle and expendable launch-vehicle payloads.* (CA Environmental Modeling/Analysis; DTE Acoustic, Shock and Vibration, Test Tailoring)

Toliver, R., Formation and Accretion of Supercooled Water Droplets and Their Effect on Aircraft, No. 2, p. 27. *Presents basic technical information regarding the icing process to begin a discussion on test requirements to develop procedures to test equipment that will be exposed to supercooled fog and the resultant ice accretion.* (DTE Climatics and Thermal, Test Tailoring)

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